## REMARKS

Claim 45 has been amended. New claim 46 has been added. Support for new claim 46 can be located at page 8, line 25 – page 9, line 3 of the specification of the present invention. Claims 27-43 and 45-46 are currently pending and under consideration.

On page 4 of the Office Action, claim 45 was rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,915,024 (Kitaori).

Kitaori includes a digest generator that applies a hash function to a signature message to generate a message digest.

Applicants respectfully submit that currently amended independent claim 45 is patentable over the reference, as Kitaori fails to disclose, "applying a first one-way function using a first key to each of the data divisions. . ." and "applying a second one-way function using a second key to each of the data divisions," wherein the first and second keys are different, as recited in currently amended independent claim 45.

As the Examiner acknowledged on page 3 of the Office Action, Kitaori does not disclose a first and second key wherein the first and second keys are different. Therefore, withdrawal of the rejection is respectfully requested.

On page 5 of the Office Action, claims 27, 32, and 37-43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,915,024 (Kitaori) in view of U.S. Patent No. 6,009,524 (Olarig).

As acknowledged by the Examiner, Kitaori does not teach first and second keys. Applicants respectfully submit that although Olarig teaches adding a second signature using a second key to the data already signed using a first key, Olarig does not disclose an apparatus applying two signatures using two different keys to the data in a manner described in the claims of the present invention. That is, two entities sign the data in Olarig, and one entity signs the data in the present invention.

In Olarig, a vendor signs the data using a vendor's key for verification purpose before a delivery of the data. An administrator examines the data using the vendor's key to confirm whether the data is forged in the delivery and then signs the data using an administrator's key to ensure that he examined the data. Thus, in Olarig, two entities are necessary to sign the data.

In contrast, in the present invention, multiple one-way functions and keys are used to reduce a probability of misidentification of a forged authenticator, and one entity creates an

authenticator using one-way functions and keys, and appends it to the data before a delivery of it.

If, like Olarig, a first entity creates a first signature and appends it to the data and then a second entity creates a second signature and appends it to the data, the data and the first signature may be forged easily before appending the second signature because a single signature is relatively easy to forge. However, in the present invention, an entity creates a secure authenticator using multiple one-way functions and keys and appends it to the data before the delivery of it. Therefore, the data and the authenticator are safe from forging.

In light of the foregoing, Applicants respectfully submit that claims 27, 32, 37-43, and 45 are patentable over the references, as neither Kitaori nor Olarig, alone or in combination, discloses or suggests the above-identified features of the present invention.

As dependent claims 28-31 and 33-36 depend from independent claims 27 and 32, respectively, the dependent claims are patentable over the references for at least the reasons presented for the independent claims.

Applicants respectfully submit that independent claim 46 is patentable over the references, as neither of the references, alone or in combination, disclose or suggest, "an authenticator creating unit which utilizes keys to perform scramble of one-way data compression for each of the data divisions, thereby creating authenticators corresponding to the keys wherein said keys are different."

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

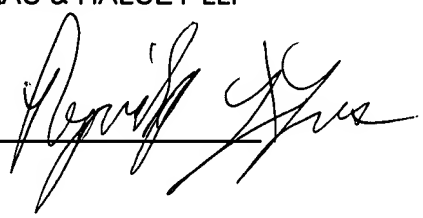
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 7/6/07

By: 

Reginald D. Lucas
Registration No. 46,883

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501